

REMARKS/ARGUMENTS

Through this Amendment and Response, claims 45-52, 56, 58-60, 62, 63, 65-78, 80-84, and 87-89 have been amended and claims 64 and 90-100 have been cancelled. New claim 101 has been added. Claims 45-89 are pending in the application. No new matter has been added. As explained in more detail below, Applicants submit that all claims are in condition for allowance and respectfully request such action.

Interview Summary

This Interview Summary is filed in furtherance of the Examiner's Interview conducted on June 20, 2007. Applicants wish to thank Examiner Saltarelli for his time during the Examiner's interview, during which the finality of the Office Action was discussed. Applicants appreciated the opportunity to discuss the matter with the Examiner and the subsequent issuance of a Non-Final Office Action.

Claim Amendments

To more clearly recite the subject matter of the pending claims, Applicants have amended claims 45-52, 56, 58-60, 62, 63, 65-78, 80-84, and 87-89 and cancelled claims 64 and 90-100. Specifically, the claims have been amended to provide antecedent basis and clarity in the recited subject matter. Specific amendments include amendments to claims 45, 50, 56 and 59 to indicate that "at least one of the plurality of hierarchically modulated data streams is configured to have a maximum range greater than at least one other hierarchically modulated data stream that provides an adequate C/N ratio for reception by a terminal." Support for these amendments may be located within the application, for example, within paragraphs 22 – 25 and Fig. 3 of the Substitute Specification.

Further, claims 49, 58, 62, 66-70, 78, 80-81 have been amended to more clearly indicate the predetermined criterion may be "selected from the group consisting of: quality of service, delivery speed, error rate, and combinations thereof." Support for these amendments may be located in the application, for example, within paragraph 33 of the Substitute Specification.

Claims 71-73 have been amended to depend from claims 48, 52 and 60 respectively, and indicate that “at least one of the profiles in the set of profiles is based upon a factor selected from the group consisting of: the terminal type, the level of service, and combinations thereof.” Support for the amendment may be found throughout the application, such as for example, paragraph 8 of the Sub. Specification. No new matter has been added. As explained in more detail below, Applicants respectfully submit that the claims are in condition for allowance.

New Claim 101

New claim 101 has been added to recite a wireless apparatus. Specifically, the wireless device comprises “a receiver configured to receive a plurality of hierarchically modulated simultaneously transmitted data streams which respectively have a different priority assigned to the contents therein corresponding to a particular class of the content wherein the terminal is configured to simultaneously receive the contents of any of the data streams having adequate C/N ratio at the location of the terminal.” Support for the wireless apparatus having a receiver may be found throughout the application, for example, such as within paragraphs 18-21 of the Substitute Specification (See also terminal 3 having receiver 5 shown in Fig. 1). Support for the hierarchically modulated simultaneously transmitted data streams may be found throughout the application, such as Figures 2-4 and paragraphs 22-33 and Figures 3 and 4 of the Substitute Specification.

Claim Rejections – 35 USC § 103

Claims 45-100 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gotwald (US 5,987,518) in further view of Banker et al. (US 5,497,187). Applicants respectfully traverse the rejection in view of the Remarks below.

First, Banker appears to merely show the serial transmission of different channels, and does not perform hierarchical modulation as recited. Therefore, there can be no “hierarchically modulated simultaneously transmitted data streams which respectively have a different priority assigned to the contents therein corresponding to a particular class of the content,” as recited in the claims. To more clearly recite the transmission of the streams, independent claims 45, 50, 56 and 59 have been amended to indicate that “at least one of the plurality of hierarchically

modulated data streams is configured to have a maximum range greater than at least one other hierarchically modulated data stream that provides an adequate C/N ratio for reception by a terminal. Support for the amendment may be located within the application, for example, within paragraphs 22 – 25 and Figure 3. Applicants respectfully submit that this is distinctly different than the transmission of several channels through a cable to a single location (apparatus 75) as recited in Banker.

Specifically, as noted by the Office Action, the “streams [of Banker] are ultimately modulated together and subsequently transmitted from combiner 106.” In fact, Banker expressly states that the services “are delivered via cable 170 which may be coaxial or optical fiber which comprises a portion of signal distribution apparatus 165 and connects, for example, signal combiner to apparatus 175.” (Banker, Col. 6, ll. 48-52, emphasis added). Thus, the multiplexed stream is merely transmitted via a single conventional cable to a single location (apparatus 175). Therefore, Applicants respectfully submit that Banker does not teach, disclose, or suggest that “at least one of the plurality of hierarchically modulated data streams is configured to have a maximum range greater than at least one other hierarchically modulated data stream that provides an adequate C/N ratio for reception by a terminal.” For example, Figure 3 shows two hierarchically modulated simultaneously transmitted data streams. A low-priority stream (LP stream) 24 and a high-priority stream (HP stream) 26. As shown in Figure 3, “the chain line marked C/N_{min} represents the maximum range from the transmitter 11 that a LP signal [from LP stream 24] may extend whilst the C/N ratio remains above that necessary for its reception by a terminal.” (Sub. Spec., Paragraph 25). Thus depending on the “prevailing C/N ratio, [a receiver] is then able to receive either the HP stream alone or the HP and LP stream.” For at least this reasoning, Applicants respectfully request reconsideration and withdrawal of the rejection.

Further, nowhere in Banker is the combiner 106 disclosed or suggested to transmit simultaneously transmitted data streams. Rather, as explained in more detail below, they are merely conventionally transmitted in sequential order through a cable. In this regard, the Office Action states that “fig 5a simply illustrates a baseband video signal.” (Office Action dated June 29, 2007 at page 2). Figs 5(b) and 5(c), however, also show the serial arrangement. A chronology of changes to the transmitted content clearly demonstrates that the serial arrangement is preserved. First, Banker explicitly states “[d]ifferent groups of data are transmitted on a **serial**

data channel....” (Col. 10, ll. 37-38; emphasis added). As shown in Figure 5(a), the data streams discussed in the cited portion of Banker (see Col. 11, lines 1-17, showing streams (7), (8), and (9)) are not simultaneously transmitted). The same streams are preserved in Figure 5(b) with the removal of only select equalizing pulses at select lines. There is no “hierarchically modulated simultaneously transmitted data streams.” Rather, as explicitly stated in Banker, “[t]here need not be a two step process of first removing equalizing pulses a selected lines, such as lines 7-9, as shown in Fig 5b.” (Banker, Col. 24, ll. 29-34). Further, Banker states that “[l]ines 7-9 of the vertical blanking interval of an NTSC standard television signal comprises three times 63.5 microseconds duration or approximately 190 microseconds. (Banker, Col.24, ll. 35-37).

Thus, in contrast to the teachings of Banker, the recited system and methods allow different data streams to be sent simultaneously without multiplexing. Rather, Banker merely discusses the multiplexing of data, which is a less efficient process where data is taken from different streams and sent in a sequential order, but not simultaneously in a plurality of data streams as claimed.

Specifically with regards to claim 47, a “splitter subsequently places each data element, in accordance with the marker, into a corresponding hierarchical transport stream for subsequent transmission by a network according to certain embodiments disclosed in the instant application.” As provided in an exemplary embodiment in the application, “[t]he data is then encoded and placed in data containers before being passed to splitter 22 which identifies from the containers the priority assigned to their contents and passes them to the appropriate stream 24,26 [as opposed to a single multiplexed stream] for transmission by the transmitter 11.” (Sub. Spec., para. 0026). Looking more closely at figure 4 of the application, one can see the advantages of the recited claims over Gotwald and/or Banker. Figure 4 illustrates the use of a plurality of hierarchically modulated simultaneously transmitted data streams which respectively have a different priority assigned to the contents therein corresponding to a particular class of the content.

Further, independent claims 48, 52, 65 and 76 include the recitation of “profiles.” As explained in the Substitute Specification, the classifier 35 may assign priority of the data classes or types according to user profiles, such as illustrated profiles A and B shown in Figure 4. In the illustrated example, profile A relates to a mobile terminal and profile B relates to a fixed

Appln. No.: 09/893,421
Response/Amendment dated September 5, 2007
Response to Office Action dated June 29, 2007

terminal. In the example, the mobile terminal profile ("A") has the "text" data type set to a HP stream while the "video" data type is set to a LP stream. In the described embodiment, the HP stream is more reliable (a receiver can more easily identify a quadrant over a particular constellation point), however, the bit rate of the HP stream will be less than that of the LP stream. Thus, in the illustrated embodiment, the LP stream may be utilized by the receiver where the C/N ratio is such as to allow the receiver to detect not only the quadrant but also a particular constellation point. In view of the foregoing, Applicants respectfully submit that neither Gotwald nor Bunker, either in combination or individually, teach, disclose, or suggest the subject matter of the pending claims, and therefore respectfully request reconsideration and withdrawal of the rejection.

CONCLUSION

All rejections having been addressed, applicant respectfully submits that the instant application is in condition for allowance, and respectfully solicits prompt notification of the same. Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the number set forth below.

Applicant believes there is no fee due in association with the filing of this response, however, should there be any fees due the Commissioner is hereby authorized to charge any such fees or credit any overpayment of fees to Deposit Account No. 19-0733.

Respectfully submitted,

BANNER & WITCOFF, LTD.



Dated: September 5, 2007

By:

Shawn P. Gorman
Reg. No. 56,197

BANNER & WITCOFF, LTD.
10 South Wacker Drive - Suite 3000
Chicago, IL 60606
Tel: (312) 463-5000
Fax: (312) 463-5001